

On page 20, after line 15, please add the following:

5        -) BASIS FOR THE INTERMEDIATE FORMULAE IN ANOTHER  
PREFERRED EMBODIMENT ACCORDING TO THE INVENTION:

The aforementioned formulae are illustrative of one  
embodiment of the present invention. For example, the number  
10    ``60.6'' in the formulae includes the sum of 60 plus 0.6,  
which yields 60.6, to compensate for precision of certain  
calculators and computers for what is in actuality a factor  
of ``60''. In other calculators and/or calculators 60.5  
could be used as a means for compensating for inaccuracies  
15    and precision of such calculators, for example. However, if  
precision is not an issue with respect to accuracy, and the  
calculator and/or computer is substantially 100 per cent  
precise and substantially 100 percent accurate, then a  
factor of 60 is used.

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#### TYPICAL HOCKEY GAME

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Furthermore, in a further preferred embodiment, the user may  
start with a typical ice hockey game as follows:

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❖ 1) Game clock 0:00 - 1:24: A goal was scored by Team #2 at  
1:24.

❖ No players were serving penalty time when the goal was  
scored.

❖ FORMULA #10, EARNED GOAL AVERAGE:  $((R) - (S) / (Q) - (T) * (60))$

❖ TEAM #1:

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❖ R (total goals against) 1, minus S, ( power play goals against) zero for a sum

❖ of 1. Divide by Q minus T (Q being total minutes played  
10 by a goaltender)

❖ 1, (T being total power play time faced by a goaltender)  
0 minutes for

15 ❖ a total of 1. The 1 goal allowed minus the 0 power play goal divided by

❖ 1 minute equals 1.00 parts of an earned goal per minute of even strength

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❖ time. Multiply times 60, the standard amount of time in a hockey game. The

❖ total of 60.00 is the current amount of even strength  
25 goals allowed per

❖ every 60 minutes of even strength time faced by Team #1  
goaltender

❖ identified as #31 in this game.

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❖2) 1:24 - 2:23: A 2 minute penalty was assessed to Team #1,

❖ giving Team #2 a power play advantage beginning at 2:23.

10 ❖3) 2:23 - 5:06: A goal was scored by Team #2 at 5:06 but  
not

*CZ*  
*cont.* ❖ within the allotted 2 minute power play time, thus Team  
#2 is charged zero

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❖ power play goals for 2 minutes of 1 player and composite  
power play time.

❖ Team #1 is credited with zero power play goals against  
20 for 2 minutes of penalty

❖ time against in 1 player and composite penalty  
efficiency.

25 ❖

❖ FORMULA #1, COMPOSITE POWER PLAY:

$((D) + (2 * G) * (60) + (E) + (2 * H) / (B) / (60) \text{INT} * (60.6))$

❖ TEAM #2:

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❖ Add D, (accrued number of minutes, in which a team has a one player advantage)

❖ D being 1 minutes, to two times G (accrued number of minutes in which a team has a

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❖ has a two player advantage) G being 0 times 2, added to 2 equals 2. Multiply this sum 2 by 60, thereby transposing all

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❖ player advantage minutes into 120 seconds. Add the sum of 120 seconds to E,

❖ accrued number of seconds in which a team has a one player advantage) E being 0 seconds, total 120

20

❖ seconds, then add again to two times H (accrued number of seconds in which a team

❖ has a two player advantage) 0 seconds times two equals 0 seconds, total is 120 seconds.

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❖ Divide 120 seconds by B (total power play goals scored by a team) B being 1, the sum is 120.

❖ When B equals zero no average can be acquired and all  
5 time accrues.

❖ When B equals 1 divide again by 60 thereby transposing the seconds into minutes. The sum is 2:00. Whereby the

10 ❖ 2. represents whole total minutes and the fraction represents the integer, .0. The integer

*C2 Cont.*  
❖ is multiplied by 60.6, the integer calculation producing the whole number 0.

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❖ The integer being located the right of the whole number 2 would display in the

❖ following manner: 2:00 being TEAM #2 power play  
20 efficiency at this time of the game.

❖

❖ FORMULA #2, COMPOSITE PENALTY EFFICIENCY:

25  $((P) + (2 * S) * (60) + (Q) + (2 * T) / (N) / (60) \text{INT} * (60.6))$

❖ TEAM #2:

❖ Add P, (accrued number of minutes, in which a team has one player serving penalty time)

5 ❖ P being 2 minutes, to two times S (accrued number of minutes in which a team has two players serving penalty time)

❖ S being 0 times 60, added to 2 equals 2. Multiply this  
10 sum 2 by 60, thereby transposing all

*C2 Cont*  
❖ penalty minutes into 120 seconds. Add the sum of 120 seconds to Q, accrued number of seconds in which

15 ❖ a team has one player serving penalty time) Q being 0 seconds, total 120.

❖ Add to two times T (accrued number of seconds in which a team

20

❖ has two players serving penalty time) T being 0 seconds times two equals 0 seconds

❖ the total is 120 seconds. Divide 120 seconds by N (total  
25 power play goals scored against a team) N being 0.

❖ When N equals 0 no average can be acquired and all penalty time accrues.

❖ When N equals 1 divide by 60 thereby transposing the  
5 seconds into minutes. The sum is 2.00 whereby the

❖ 2 represents whole total minutes and the fraction represents the integer, .00.

10 ❖ The integer is multiplied by 60.6, the integer calculation producing the whole number 2.

*C2 Cmt.*  
❖ The integer being located to the right of the whole number 2 would display in the

15

❖ following manner: 2:00 being TEAM #2 penalty efficiency at this time of the game.

❖

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❖ FORMULA #7, COMPOSITE HOT SEAT:

$((P) + (2 * S) * (60) + (Q) + (2 * T) / (N) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

25

❖ Add P, (accrued number of minutes, in which a team has one player serving penalty time)

❖ P being 2 minutes, to two times S (accrued number of minutes in which a team has two players serving penalty time)

5

❖ S being 0 times 0, added to 2 equals 2. Multiply this sum 2 by 60, thereby transposing all

❖ penalty minutes into 120 seconds. Add the sum of 120  
10 seconds to Q, accrued number of seconds in which

❖ a team has one player serving penalty time) Q being 0 seconds, total 120.

C2  
Cmt.  
15 ❖ Add to two times T (accrued number of seconds in which a team

❖ has two players serving penalty time) T being 0 seconds times two equals 0 seconds

20

❖ the total is 120 seconds. Divide 120 seconds by N (total power play goals scored against a team) N being 0.

❖ When N equals 0 no average can be acquired and all  
25 penalty time accrues.



❖ When N equals 1 divide by 60 thereby transposing the seconds into minutes. The sum is 2.00 whereby the

❖ 2 represents whole total minutes and the fraction  
5 represents the integer, .00.

❖ The integer is multiplied by 60.6, the integer calculation producing the whole number 2.

10 ❖ The integer being located the right of the whole number 2 would display in the

*CV*  
*Cont*  
❖ following manner: 2:00 being TEAM #2 Composite Hot Seat at this time of the game.

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❖4) 5:06 - 5:39: At 5:39 a 2 minute penalty was

❖ assessed to Team #2, thus giving Team #1 a power play beginning at 5:39.

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❖5) 5:39 - 11:56: A 2 minute penalty was assessed to Team #1 at 11:56

❖ Team #1 did not score a power play goal within the  
25 allotted 2 minute power

❖ play time that started at 5:39. Team #1 is charged zero power play goals

❖ for 2 minutes of 1 player and composite power play time.

5

❖ Team #2 is credited with zero goals against for 2 minutes of 1 player

❖ and composite penalty time against. Penalty to Team #1

10 begins at 11:56.

*C2*  
*Cmt*  
❖6) 11:56 - 14:27: A 2 minute penalty was assessed to Team #2 at 14:27 giving Team #1 a power play. Team #2 did not score a power play goal within the allotted 2 minute power  
15 play time that started at 11:56. Team #2 is charged zero power

❖ play goals for 2 minutes of 1 player and composite power play time.

20

❖ Team #1 is credited with zero goals against for 2 minutes of 1 player

❖ and composite penalty time against. Penalty to Team #1

25 begins at 14:27.

7) 14:27 - 15:08: A goal was scored by Team #2 at 15:08.

Team #1

power play is charged zero power play goals for 41  
5 seconds of 1 player and

composite power play time. Team #2 is credited with zero  
goals and

10 41 seconds of 1 player and composite penalty efficiency  
time.

C2  
Cmt. 8) 15:08 - 16:05: A 2 minute penalty was assessed at 16:05

15 against Team #2 when 1 player was already serving  
penalty time.

Team #1 is charged zero goals and 57 seconds in 1 player

20 and composite power play time. Team #2 is charged zero  
goals and 57 seconds

in 1 player and composite power play time against. A two  
player

25

advantage for 22 seconds begins at 16:05 for Team #1.

9) 16:05 - 17:25: A 2 minute penalty was assessed to Team  
#1 during

5 a power play. Team #1 expired the 22 seconds of two  
player

a advantage at 16:27 without scoring and continued on a 1  
player advantage

10 a from 16:27 to 17:25 for an additional 58 seconds of 1  
player power play time.

C2  
Cmt  
a Team #1 is charged zero power play goals for 22 seconds  
of 2 player

15 a advantage time, zero goals for 58 seconds of 1 player  
advantage time

a and zero goals for 1 minute and 42 seconds of composite  
20 power play

a time. Team #2 is credited with zero for 22 seconds of 2  
player power

25 a play time against, zero goals for 58 seconds of 1 player  
advantage

❖ and zero goals for 1 minute and 42 seconds of composite penalty

❖ efficiency. When play resumed at 17:25 both teams had 1  
5 player serving

❖ penalty time.

❖

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*CR*  
*amb.*  
❖ FORMULA #3, TWO PLAYER POWER PLAY:

$((G) * (60) + (H) / (F) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

15

❖ Multiply times 60 G (accrued number of minutes in which  
a team has a two

❖ player advantage) 0. Add to H (accrued number of seconds  
20 in which a team

❖ has a two player advantage) 22. Total is 22 seconds.  
Divide by F (number

25 ❖ of goals scored by a team when it has a two player  
advantage) 0.

❖ When F equals 0 indicating no two player power play goals scored for

❖ no average can be acquired and all time accrues. When F  
5 equals 1

❖ divide sum by 60 and multiply the integer by 60.6.

❖ The integer being located the right of the whole number  
10 0

*C2 Cont*  
❖ would display in the following manner: 0:22 being TEAM  
#1 two player

15 ❖ power play for this game.

❖

❖ FORMULA #8, HOT SEAT TWO PLAYER PENALTY DISADVANTAGE:  
20  $((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

❖ TEAM #2

❖ Multiply times 60 S (accrued number of minutes in which  
25 a team has two

❖ players serving penalty time) S being 0 time 60 equals 0 seconds. Add to T

❖ (accrued number of seconds in which a team has two  
5 players serving penalty

❖ time. T being 22, total seconds is 22. Divide by R (number of goals scored

10 ❖ against a team when two players are serving penalty time, R being 0.

*C2 cont*  
❖ When R equals 0 indicating no two player power play goals scored against

15

❖ a goaltender no average can be acquired and all time accrues. When R

❖ equals 1 divide by 60, multiply the integer by 60.6.

20

❖ It would display in the following manner: 0:22 being TEAM #2 goaltender

❖ Hot Seat two player penalty efficiency for this game.

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❖ 10) 17:25 - 20:00: The period ended at 20:00. At 18:05

❖ Team #2 penalty expired. Team #2 had a 1 player  
advantage power play

❖ 18:05 to 19:25 and did not score a goal. Team #2 is  
5 charged zero goals

❖ for 1 minute and 20 seconds of 1 player power play. Team  
#1 was credited with zero goals for 1 minute and 20 seconds  
of penalty efficiency. End #1.

10

❖

❖ PERIOD #2

15 ❖1) Game clock 0:00 to 1:01: A 2 minute penalty was assessed  
to Team #2, giving

❖ Team #1 a power play advantage beginning at 1:01.

20 ❖2) 1:01 - 4:57: A 2 minute penalty was assessed to Team #1  
and

❖ Team #2. No power play advantage. Team #1 did not score  
a

25

❖ power play goal within the allotted 2 minute power play  
time that started at



❖ 1:01. Team #1 is charged zero power play goals for two minutes of 1 player and composite

5 ❖ power play time. Team #2 is credited with zero goals against and two minutes of 1 player

❖ and composite penalty time against.

10 ❖3) 4:57 - 5:26: A goal is scored by Team #2. No players were

❖ serving penalty time when the goal was scored.

15 ❖4) 5:26 - 6:38: A goal is scored by Team #1. No players were

❖ serving penalty time when the goal was scored.

20 ❖5) 6:38 - 8:03: A 2 minute penalty was assessed to Team #1

❖ giving Team #2 a power play advantage beginning at 8:03.

❖6) 8:03 - 8:33: A 2 minute penalty is assessed to Team #2  
25 thereby

❖ nullifying their power play advantage that began at  
8:03.

❖ Team #2 is charged zero power play goals for 30 seconds  
5 of 1 player and

❖ composite power play time. Team #1 is credited with zero  
goals against

10 ❖ for 30 seconds of 1 player and composite penalty  
efficiency time against.

*C2*  
*Cont*  
❖ Team #1 power play will begin at 10:03. Both teams now  
have 1 player serving

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❖ penalty time. (A delayed power play will begin for Team  
#1 at 10:03.

❖7) 8:33 - 12:12: A 2 minute penalty was assessed to Team #1  
20 and

❖ Team #2. No power play advantage. Team #1 did not score  
a power play goal

25 ❖ during a power play that began at 10:03. Team #1 is  
charged zero power play goals for 30 seconds of 1 player and  
composite power play time. Team #2 is credited with zero

goals against and 30 seconds of 1 player and composite penalty

❖ time against.

5

❖8) 12:12 - 13:15: A 2 minute penalty is assessed to Team #2 giving

❖ Team #1 a power play advantage beginning at 13:15.

10

❖9) 13:15 - 19:13: A 2 minute penalty is assessed to Team #1 giving

❖ Team #2 a power play advantage beginning at 19:13. Team #1 did not score a

❖ power play goal within the allotted 2 minute power play time that started at

❖ 13:15. Team #1 is charged zero power play goals for two minutes of 1 player and composite power play time. Team #2 is credited with zero goals against and 2 minutes of 1 player and composite penalty time against. Penalty to Team #1

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❖ begins at 19:13.

❖10) 19:13 - 19:17: Team #2 scores a goal a 19:17 during a 1  
player power play

❖ advantage. Team #2 is credited with 1 power play goal  
5 for 4 seconds of

❖ 1 player and composite power play time. Team #1 is  
charged 1 power play

10 ❖ goal against for 4 seconds of 1 player and composite  
penalty efficiency

*C2  
Cmt.*  
❖ time against.

15 ❖11) 19:17 - 20:00: Time expired with no penalties or goals  
scored. End #2

❖

20 ❖PERIOD #3

❖1) 0:00 - 0:13: A 2 minute penalty was assessed to Team #1

❖ giving Team #2 a power play advantage beginning at 0:13.

25

❖2) 0:13 - 0:30: A 2 minute penalty was assessed to Team #1

❖ giving Team #2 a 2 player power play advantage beginning at 0:30.

❖ Team #2 is charged zero goals for 17 seconds of 1 player  
5 and composite

❖ power play time. Team #1 is credited zero goals against for 17 seconds

10 ❖ of 1 player and composite penalty efficiency time.

C2  
Cont.  
❖3) 0:30 - 3:11: Team #2 is assessed a 5 minute major penalty. Team #2 did not score a goal during a 2 player power play advantage that began at 0:30

15

❖ and ended at 2:13, 1 minute and 43 seconds. Team #2 also did not score

❖ during the remainder of a 1 player power play advantage  
20 from 2:13 through

❖ 2:30, 17 seconds. Team #2 is charged zero goals for 1 minute and 43 seconds

25 ❖ of 2 player power play advantage time, zero goals for 17 seconds of 1

❖ player advantage time and zero goals for 3 minutes and 43 seconds of composite power play time. Team #1 is charged zero goals against for 1 minute and 43 seconds of 2 player penalty efficiency time, zero goals for

5

❖ 17 seconds of 1 player penalty efficiency time and zero goals for 3 minutes and 43 seconds of composite penalty efficiency time against. A 5 minute major power play begins for Team #1 at 3:11.

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❖

❖ FORMULA #4, TWO PLAYER PENALTY EFFICIENCY:

$((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

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❖ TEAM #1:

❖ Multiply times 60 S (accrued number of minutes in which a team has two

20

❖ players serving penalty time) S being 1 time 60 equals 60 seconds. Add to T

❖ (accrued number of seconds in which a team has two

25 players serving penalty

❖ time. T being 43, total seconds is 103. Divide by R  
(number of goals scored

❖ against a team when two players are serving penalty  
5 time, R being 0.

❖ When R equals 0 indicating no two player power play  
goals scored against

10 ❖ no average can be acquired and all time accrues. When R  
equals 1

C2  
Cnt  
❖ divide by 60, multiply the integer by 60.6. The integer  
being located to

15

❖ the right of the whole number would display in the  
following manner: 1:43

❖ being Team #1 two player penalty efficiency for this  
20 game.

❖4) 3:11 - 11:35: A 2 minute penalty was assessed to Team #1  
at 11:35 giving Team #2 a power play. Team #1 did not score  
a goal within the allotted 5

25

❖ minutes of major play time that started at 3:11. Team #1 is charged zero goals for 5 minutes of 1 player, 5 minutes of major power play time and

5 ❖ 5 minutes of composite power play time.

❖ Team #2 is credited with zero goals against for 5 minutes of 1 player,

10 ❖ 5 minutes of major power play time and 5 minutes of composite penalty time against. Penalty to Team #1 begins at 11:35.

❖

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❖ FORMULA #5, MAJOR POWER PLAY:

$((G) * (60) + (H) / (F) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

20

❖ Multiply times 60 G (accrued number of minutes in which a team has a major

❖ player advantage) G being 5 for a total of 300 seconds.

25 Add to H (accrued



❖ number of seconds in which a team has a major power  
play) H being 0 for a

❖ total of 300 seconds. Divide by F (number of goals  
5 scored by a team when

❖ it has a one player advantage) 0.

❖ When F equals 0 indicating no major power play goals  
10 scored, no average can

*Cr  
Cont.*  
❖ be acquired and all time accrues. When F equals 1 divide  
by 60, multiply the

15 ❖ integer by 60.6. The integer being located the right of  
the whole number 5

❖ would display in the following manner: 5:00 being TEAM  
#1 major power play

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❖ for this game.

❖

25 ❖ FORMULA #6, MAJOR PENALTY EFFICIENCY:

$((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

❖ TEAM #2:

❖ Multiply times 60 S (accrued number of minutes in which a team has a major

5

❖ penalty) S being 5 for a total of 300 seconds. Add to T (accrued

❖ number of seconds in which a team has a major penalty) T

10 being 0 for a

*C2 cont.*  
❖ total of 300 seconds. Divide by R (number of goals allowed by a team when

15 ❖ it has a major penalty) 0.

❖ When R equals 0 indicating no major power play goals allowed by any team

20 ❖ no average can be acquired and all time accrues. When R equals 1

❖ divide by 60, multiply the integer by 60.6.

25 ❖ The integer being located to the right of the whole number 5 would display in the following manner: 5:00 being team #2 major penalty efficiency.

❖ FORMULA #9, HOT SEAT MAJOR TIME EFFICIENCY:

$((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

5 ❖ TEAM #2:

❖ Multiply times 60 S (accrued number of minutes in which a team has a major

10 ❖ penalty) S being 5 for a total of 300 seconds. Add to T (accrued

*C2 Cont.*  
❖ number of seconds in which a team has a major penalty) T being 0 for a

15

❖ total of 300 seconds. Divide by R (number of goals allowed by a team when

❖ it has a major penalty) 0.

20

❖ When F equals 0 indicating no major power play goals allowed by any team

❖ no average can be acquired and all time accrues. When F  
25 equals 1

❖ divide by 60, multiply the integer 60.6.

❖ The integer being located the right of the whole number  
5

5 ❖ would display in the following manner: 5:00 being TEAM  
#2 goaltender

❖ Hot Seat Major Time Efficiency for this game.

10 ❖5)11:35 - 20:00: The game clock expired. Team #2 did not  
score a goal during

*C2  
Cont.*  
❖ a 2 minute power play 11:35 through 13:35. Team #2 is  
charged zero goals

15

❖ scored, for 2 minutes of 1 player advantage and  
composite power play time.

❖ Team #1 is credited with zero goals against for 2  
20 minutes of 1 player and

❖ composite penalty efficiency time. End #3

❖

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❖OVERTIME--None

CALCULATIONS FOR THE TYPICAL HOCKEY GAME

❖ Under the preferred embodiment, the calculations for  
5 the above typical hockey game are as follows:

FORMULA #1, COMPOSITE POWER PLAY:

$$((D) + (2 * G) * (60) + (E) + (2 * H) / (B) / (60) \text{INT} * (60.6))$$

10 ❖ TEAM #2:

*Cr  
Cont.*  
❖ Add D, (accrued number of minutes, in which a team has a  
one player advantage)

15 ❖ D being 6 minutes, to two times G (accrued number of  
minutes in which a team has a

❖ has a two player advantage) G being 1 times 2, added to  
6 equals 8. Multiply this sum 8 by 60, thereby transposing  
20 all

❖ player advantage minutes into 480 seconds. Add the sum  
of 480 seconds to E,

25 ❖ accrued number of seconds in which a team has a one  
player advantage) E being 28 seconds, total 508

seconds, then add again to two times H (accrued number of seconds in which a team

has a two player advantage) 43 seconds times two equals  
5 86 seconds, total is now 594 seconds.

Divide 594 seconds by B (total power play goals scored by a team) B being 1, the sum is 594.

10 When B equals zero no average can be acquired and all time accrues.

*Car  
Cont.*  
When B equals 1 divide again by 60 thereby transposing the seconds into minutes. The sum is 9.9. Whereby the

15

9. represents whole total minutes and the fraction represents the integer, .9. The integer

is multiplied by 60.6, the integer calculation producing  
20 the whole number 54.

The integer being located the right of the whole number 9 would display in the

25 following manner: 9:54 being TEAM #2 power play efficiency for this game.

❖

❖ FORMULA #2, COMPOSITE PENALTY EFFICIENCY:

$((P) + (2 * S) * (60) + (Q) + (2 * T) / (N) / (60) \text{INT} * (60.6))$

5

❖ TEAM #2:

❖ Add P, (accrued number of minutes, in which a team has one player serving penalty time)

10

❖ P being 14 minutes, to two times S (accrued number of minutes in which a team has two players serving penalty time)

C2  
Cont.

15 ❖ S being 2 times 0, added to 14 equals 14. Multiply this sum 14 by 60, thereby transposing all

❖ penalty minutes into 840 seconds. Add the sum of 840 seconds to Q, accrued number of seconds in which

20

❖ a team has one player serving penalty time) Q being 6 seconds, total 846.

❖ Add to two times T (accrued number of seconds in which a team

25

❖ has two players serving penalty time) T being 22 seconds  
times two equals 44 seconds.

❖ the total is 890 seconds. Divide 890 seconds by N (total  
5 power play goals scored against a team) N being 0.

❖ When N equals 0 no average can be acquired and all  
penalty time accrues.

10 ❖ When N equals 1 divide by 60 thereby transposing the  
seconds into minutes. The sum is 14.83 whereby the

*C2  
Cont.*  
❖ 14. represents whole total minutes and the fraction  
represents the integer, .83

15

❖ the integer is multiplied by 60.6, the integer  
calculation producing the whole number 50.

❖ The integer being located the right of the whole number  
20 14 would display in the

❖ following manner: 14:50 being TEAM #2 penalty efficiency  
for this game.

25 ❖



❖ FORMULA #3, TWO PLAYER POWER PLAY:

$((G) * (60) + (H) / (F) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

5

❖ Multiply times 60 G (accrued number of minutes in which  
a team has a two

❖ player advantage) 0. Add to H (accrued number of seconds  
10 in which a team

❖ has a two player advantage) 22. Total is 22 seconds.  
Divide by F (number

*C2  
Cont.*

15 ❖ of goals scored by a team when it has a two player  
advantage) 0.

❖ When F equals 0 indicating no two player power play  
goals scored for

20

❖ in any team no average can be acquired and all time  
accrues. When F equals

❖ 1 divide by 60 and multiply the integer by 60.6.

25

❖ The integer being located the right of the whole number  
0

❖ would display in the following manner: 0:22 being TEAM  
#1 two player

5 ❖ power play for this game.

❖

❖ FORMULA #4, TWO PLAYER PENALTY EFFICIENCY:

10  $((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

*C2  
Cont.*  
15 ❖ Multiply times 60 S (accrued number of minutes in which  
a team has two

❖ players serving penalty time) S being 1 time 60 equals  
60 seconds. Add to T

20 ❖ (accrued number of seconds in which a team has two  
players serving penalty

❖ time. T being 43, total seconds is 103. Divide by R  
(number of goals scored

25

❖ against a team when two players are serving penalty  
time, R being 0.

❖ When R equals 0 indicating no two player power play goals scored against

5 ❖ no average can be acquired and all time accrues. When R equals 1

❖ divide by 60, multiply the integer by 60.6. The integer being located to

10

❖ the right of the whole number would display in the following manner: 1:43

*Ca  
Cont.*  
15 ❖ being Team #1 two player penalty efficiency for this game.

❖

❖ FORMULA #5, MAJOR POWER PLAY:

20  $((G) * (60) + (H) / (F) / (60) \text{INT} * (60.6))$

❖ TEAM #1:

❖ Multiply times 60 G (accrued number of minutes in which  
25 a team has a major

❖ player advantage) G being 5 for a total of 300 seconds.

Add to H (accrued

❖ number of seconds in which a team has a major power

5 play) H being 0 for a

❖ total of 300 seconds. Divide by F (number of goals

scored by a team when

10 ❖ it has a one player advantage) 0.

*Cont.*  
❖ When F equals 0 indicating no major power play goals scored, no average can

15 ❖ be acquired and all time accrues. When F equals 1 divide by 60, multiply the

❖ integer by 60.6. The integer being located the right of the whole number 5

20

❖ would display in the following manner: 5:00 being TEAM #1 major power play

❖ for this game.

25

❖

❖ FORMULA #6, MAJOR PENALTY EFFICIENCY:

$((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

❖ TEAM #2:

5

❖ Multiply times 60 S (accrued number of minutes in which a team has a major

❖ penalty) S being 5 for a total of 300 seconds. Add to T

10 (accrued

❖ number of seconds in which a team has a major penalty) T being 0 for a

*C2  
Cont.*

15 ❖ total of 300 seconds. Divide by R (number of goals allowed by a team when

❖ it has a major penalty) 0.

20 ❖ When R equals 0 indicating no major power play goals allowed by any team

❖ no average can be acquired and all time accrues. When R equals 1

25

❖ divide by 60, multiply the integer by 60.6.

❖

❖ GOALTENDER STATISTICS:

5 ❖

❖ All goaltender statistics are determined according  
appearance / time-in

10 ❖ time-out during the course of events.

❖

*C2  
Cont.*  
❖ FORMULA #7, COMPOSITE HOT SEAT:

15  $((P) + (2 * S) * (60) + (Q) + (2 * T) / (N) / (60) \text{INT} * (60.6))$

❖ TEAM #2:

❖ Add P, (accrued number of minutes, in which a team has  
20 one player serving penalty time)

❖ P being 14 minutes, to two times S (accrued number of  
minutes in which a team has two players serving penalty  
time)

25

❖ S being 0 times 2, added to 14 equals 14. Multiply this  
sum 14 by 60, thereby transposing all

❖ penalty minutes into 840 seconds. Add the sum of 840 seconds to Q, accrued

5 ❖ number of seconds in which a team has one player serving penalty time) Q being 6 seconds, total 846.

❖ Add to two times T (accrued number of seconds in which a team

10

❖ has two players serving penalty time) T being 22 seconds times two equals 44 seconds.

*CR Cont.*  
15 ❖ the total is 890 seconds. Divide 890 seconds by N (total power play goals scored against a team) N being 0.

❖ When N equals 0 indicating no power play goals scored against a goaltender

20 ❖ no average can be acquired and all time accrues. When N equals 1

❖ divide by 60 thereby transposing the seconds into minutes. The sum is 14.83 whereby the

25

❖ 14. represents whole total minutes and the fraction represents the integer, .83

❖ the integer is multiplied by 60.6, the integer calculation producing the whole number 50.

5 ❖ The integer being located the right of the whole number 14 would display in the

❖ following manner: 14:50 being TEAM #2 Hot Seat efficiency for this game.

10

❖

*C2 Cont.*  
❖ FORMULA #8, HOT SEAT TWO PLAYER PENALTY DISADVANTAGE:  
 $((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

15

❖ TEAM #2

❖

20 ❖ Multiply times 60 S (accrued number of minutes in which a team has two

❖ players serving penalty time) S being 0 time 60 equals 0 seconds. Add to T

25

❖ (accrued number of seconds in which a team has two players serving penalty



❖ time. T being 22, total seconds is 22. Divide by R  
(number of goals scored

5 ❖ against a team when two players are serving penalty  
time, R being 0.

❖ When R equals 0 indicating no two player power play  
goals scored against

10

❖ a goaltender no average can be acquired and all time  
accrues. When R

*C2 Cont.*  
❖ equals 1 divide by 60, multiply the integer by 60.6.

15

❖ It would display in the following manner: 0:22 being  
TEAM #2 goaltender

❖ Hot Seat two player penalty efficiency for this game.

20

❖

❖ FORMULA #9, HOT SEAT MAJOR TIME EFFICIENCY:

$((S) * (60) + (T) / (R) / (60) \text{INT} * (60.6))$

25

❖ TEAM #2:

❖ Multiply times 60 S (accrued number of minutes in which a team has a major

❖ penalty) S being 5 for a total of 300 seconds. Add to T  
5 (accrued

❖ number of seconds in which a team has a major penalty) T being 0 for a

10 ❖ total of 300 seconds. Divide by R (number of goals allowed by a team when

*Cr  
Cont.*  
❖ it has a major penalty) 0.

15 ❖ When F equals 0 indicating no major power play goals allowed by any team

❖ no average can be acquired and all time accrues. When F equals 1

20

❖ divide by 60, multiply the integer 60.6.

❖ The integer being located the right of the whole number  
5

25

❖ would display in the following manner: 5:00 being TEAM #2 goaltender

❖ Hot Seat Major Time Efficiency for this game.

❖

5

❖ FORMULA #10, EARNED GOAL AVERAGE:  $((R) - (S) / (Q) - (T) * (60))$

❖ TEAM #1:

10 ❖

*Cr  
Cont.*  
❖ R (total goals against) 5, minus S (power play goals against) for a sum

15 ❖ of 4. Divide by Q minus T (Q being total minutes played by a goaltender)

❖ 40, (T being total power play time faced by a goaltender) 6 minutes for

20

❖ a total of 34. The 5 goals allowed minus the 1 power play goal divided by

❖ 34 minutes equal 0.11 parts of an earned goal per minute  
25 of even strength

❖ time. Multiply times 60, the standard amount of time in a hockey game. The

❖ total of 7.05 is the average amount of even strength  
5 goals allowed per

❖ every 60 minutes of even strength time faced by Team #1 goaltender

10 ❖ identified as #31 in this game.

*Cont.*  
DEFINITIONS

15 The definitions applicable to the above calculations are as follows:

❖PRD#: PERIOD OF PLAY

20

❖TEAM PP#: POWER PLAY OPPORTUNITY BY TEAM NUMBER

❖IN: ELAPSED GAME CLOCK TIME-IN

25 ❖OUT: ELAPSED GAME CLOCK TIME-OUT

❖PPTB: POWER PLAY TIME BEGIN

❖MLTH: MAXIMUM LENGTH POWER PLAY TIME IN MINUTES

❖PA: PLAYER ADVANTAGE: 1 PLAYER/2 PLAYER/MAJOR TIME

❖TGS: ELAPSED TIME GAME CLOCK ALL GOALS SCORED

5

❖PEN: ELAPSED TIME GAME CLOCK ALL PENALTIES

❖OPP GLTNR: OPPOSING GOALTENDER

10 ❖OG: OPPOSING GOALTENDER SWEATER NUMBER

*Cr  
Cont.*  
❖MP: TEAMS OPPOSING GOALTENDER ELAPSED TIME MINUTES PLAYED  
BETWEEN

15 ❖TIME-IN TIME-OUT (ROUNDED OUT TO NEAREST MINUTE PER 30  
SECONDS OF PLAYING TIME)

❖GA: OPPOSING GOALTENDER TOTAL GOALS AGAINST

20 ❖1-PLAYER: 1-PLAYER POWER PLAY ADVANTAGE

❖G: 1-PLAYER POWER PLAY GOALS SCORED

❖M: 1-PLAYER POWER PLAY MINUTES

25

❖S: 1-PLAYER POWER PLAY SECONDS

❖2-PLAYER 2-PLAYER POWER PLAY ADVANTAGE

❖G: 2-PLAYER POWER PLAY GOALS SCORED

5 ❖M: 2-PLAYER POWER PLAY MINUTES

❖S: 2-PLAYER POWER PLAY SECONDS

❖MAJOR: MAJOR POWER PLAY ADVANTAGE

10

❖G: MAJOR TIME POWER PLAY GOALS SCORED

❖M: MAJOR TIME POWER PLAY MINUTES

15 ❖S: MAJOR TIME POWER PLAY SECONDS

❖COMPOSITE: COMPOSITE POWER PLAY ADVANTAGE

❖G: COMPOSITE POWER PLAY GOALS SCORED

20

❖M: COMPOSITE POWER PLAY MINUTES

❖S: COMPOSITE POWER PLAY SECONDS

25 ❖RUNNING TIME: SUB TOTAL OF POWER PLAY GOALS/POWER PLAY TIME  
CREDITED TO A TEAM

❖BY TIME-IN / TIME-OUT OF GAME.

❖1-PLAYER: 1-PLAYER POWER PLAY ADVANTAGE

5 ❖G: 1-PLAYER POWER PLAY GOALS SCORED

❖M: 1-PLAYER POWER PLAY MINUTES

❖S: 1-PLAYER POWER PLAY SECONDS

10

❖2-PLAYER 2-PLAYER POWER PLAY ADVANTAGE

❖G: 2-PLAYER POWER PLAY GOALS SCORED

15 ❖M: 2-PLAYER POWER PLAY MINUTES

❖S: 2-PLAYER POWER PLAY SECONDS

❖MAJOR: MAJOR POWER PLAY ADVANTAGE

20

❖G: MAJOR TIME POWER PLAY GOALS SCORED

❖M: MAJOR TIME POWER PLAY MINUTES

25 ❖S: MAJOR TIME POWER PLAY SECONDS

❖COMPOSITE: COMPOSITE POWER PLAY ADVANTAGE

⌘G: COMPOSITE POWER PLAY GOALS SCORED

⌘M: COMPOSITE POWER PLAY MINUTES

5

⌘S: COMPOSITE POWER PLAY SECONDS

C2  
Cont.  
⌘OPPOSING GOALTENDER: OPPOSING TEAMS GOALTENDER APPEARING IN  
GAME AT TIME OF EVENT

10

\*\*\*\*\*

15 On page 21, in the section entitled "References To  
Related Applications", please delete lines 2-5 and insert:

C3  
- This application is a continuation of application  
serial no. 08/116,249, filed September 2, 1993, now U.S.  
20 patent no. 5,527,033, dated June 18, 1996, which is a  
continuation-in-part of application serial no. 07/579,410,  
filed September 7, 1990, now abandoned.--

On page 31, after line 16, please add the following:



C4

--In the preferred embodiment of the invention, an apparatus for determining performance -indicating numbers in sports games, particularly in ice hockey, includes a database having sports games box scores stored therein. The database is stored in a tangible electronic media, such as magnetic media, optical media, electronic media, paper, thermosetting polymers, rubber, metals, or other suitable storage media. Such media includes computer diskettes, magnetic tape, optical disks, random access memory, read only memory, computer punch cards, and other volatile, temporary, and/or permanent memory devices. The database scores box scores, such as start time, stop time, team 1 goals and time of goals, team 1 goalies A and B goals and power plays, and team 2 goalies A and B goals and power plays.

The apparatus for determining performance -indicating numbers in sports games, particularly in ice hockey is turned on at a start switch and a first database is initialized to run, which simulates the start of a hockey game. The database is stored in random access memory as cells of matrix row and column data, such that a first row and column of a conventional sports game box score, of a database is stored as rows and columns and other rows and columns are stored as further rows and columns. Each row of data is read into a bus as a matrix. After initialization each cell of the respective rows are read into the bus.

Intermediate statistics are determined electronically. The intermediate statistics , such as accrued time and power play goals, are determined for a variety of conditions, as described in formulae, which are then communicated to a

5 calculator or computer for computation of final statistics. A time chart may be displayed. After data is processed, then the incrementer increments the database to further rows and columns and the further data is read into the bus, and the intermediate statistics, the final statistics and the visual

10 display are again determined. The incrementer continues to increment each subsequent row through a series of rows, until the data are completely read onto the bus. Then the intermediate statistics, the final statistics and the visual

15 display are again determined.

*C4 Cont.*

15 With the apparatus of the present invention, the performance indicating statistics can be electronically displayed after a game or during a game on the aforesaid tangible media, which may include among others, a video split screen display during the course of a game, a sports

20 arena electronic scoreboard, or on any other video display, such as a global communications network or a television

show.--

On page 34, after line 13, please add the following:

- Figure 19 is a block diagram an apparatus 110 for  
determining performance -indicating numbers in sports games,  
5 particularly in ice hockey;

Figure 20 shows a database stored in a random access  
tangible media, describing a box score showing a running  
clock display throughout the game, with reference to both  
10 teams playing the hockey game;

CS Figure 21 is a database stored in a random access  
tangible media, describing intermediate statistics generated  
by the apparatus 110 for determining performance -indicating  
15 numbers in sports games, particularly in ice hockey, using  
the box score of Figure 20;

Figure 22 is a database stored in a random access  
tangible media, describing final statistics generated by  
20 manipulating the intermediate statistics data of Figure 21;  
and

Figure 23 is a database stored in a random access  
tangible media, describing a final display configuration  
25 perceptible by a user.

On page 64, after line 23, please add the following:

*cb*  
- In the preferred embodiment of the invention, an apparatus for determining performance-indicating numbers in sports games, particularly in ice hockey, includes a database having sports games box scores stored therein. The database is stored in a tangible electronic media, such as magnetic media, optical media, electronic media, paper, thermosetting polymers, rubber, metals, or other suitable storage media. Such media includes computer diskettes, magnetic tape, optical disks, random access memory, read only memory, computer punch cards, and other volatile, temporary, and/or permanent memory devices. The database scores box scores, such as start time, stop time, team 1 goals and time of goals, team 1 goalies A and B goals and power plays, and team 2 goalies A and B goals and power plays.

As shown in Figure 19, the apparatus 110 for determining performance -indicating numbers in sports games, particularly in ice hockey is turned on at start switch 112 and a first database 114 is initialized to run by incrementer 116, which simulates the start of a hockey game. The database 114 is stored in random access memory as cells of matrix row and column data, such that row 1, column 1 of box score 118, shown in Figure 20, of database 114 is stored as  $D_{11}$ , row 1, column 2 is stored as  $D_{12}$ , and row m, column n

is stored as  $D_{mn}$ . Each row of data is read into bus 120 as a matrix of cells  $D_{11}$  through  $D_{mn}$ . After initialization each cell of row 1, i.e.,  $D_{11}$  through  $D_{1n}$ , represented as  $D_{11} \dots D_{1n}$ , is read into the bus 120. A second database 122 of  
5 intermediate statistics, as shown in Figure 21 are determined and stored in random access memory, as shown in the block diagram of Figure 19, which will be further described. The second database intermediate statistics 122, accrued time and power play goals are determined for a  
10 variety of conditions, as described in formulae 1-10, which are then communicated to a calculator or computer for computation of final statistics 124 as shown in Fig. 22. A time chart (not shown) may be optionally displayed based upon final statistics 124 shown in Figure 23.

C6  
Cmt.  
15

After data  $D_{11} \dots D_{1n}$  is processed, the incrementer 116 increments the database 114 to row 2 and data  $D_{21} \dots D_{2n}$  is read into bus 120, the intermediate statistics 122, the final statistics 124 and the optional visual display are  
20 again determined. The incrementer 116 continues to increment each row through Row m and, until the data  $D_{11} \dots D_{1n}$  through and  $D_{m1} \dots D_{mn}$  are completely read onto the bus 120, and the intermediate statistics 122, the final statistics 124 and the optional visual display are determined.

25

With the apparatus of the present invention, the performance indicating statistics can be electronically

displayed after a game or during a game on the aforesaid  
tangible media, which may include among others, a video  
split screen display during the course of a game, a sports  
arena electronic scoreboard, or on any other video display,  
5 such as a global communications network or a television  
show.

Now, in more detail, as shown in FIG. 19, the start  
switch 112 initializes and turns on timer 128 at  
10 substantially the same time as the incrementer 116 is  
initialized. After initialization, the data cells  $D_{11} \dots D_{1n}$   
are read from the database 114 onto the bus 120 and routed  
from the bus 120 for processing by appropriate circuitry to  
be herein described. Each of the cells  $D_{11} \dots D_{1n}$  is processed  
15 by the circuitry before the incrementer 116 increments to  
the next row of the database 114.

C6  
cmd

Elapsed game time-out ( $D_4$ ) is routed to comparator 130.  
When the time generated by the timer 128 reaches the time  
20 indicated by the elapsed game time-out ( $D_4$ ), the comparator  
130 turns trigger 132 on, which transmits a trigger pulse to  
the incrementer 116, which then increments the database 114  
to row 2, and so on, until row  $m$  is reached.

25 Power play time begin( $D_5$ ) is routed to comparator 134.  
When the time generated by the timer 128 reaches the time  
indicated by the power play time ( $D_5$ ), the comparator 134

turns trigger 136 on, which transmits a trigger pulse to AND gate and AND gate 140. If there is a signal present from NOT gate 140, then the trigger pulse from the trigger 136 is sent to programmable timer 142 as a start pulse, which  
5 starts the programmable timer 142.

Maximum length power play time in minutes ( $D_6$ ) is routed to the programmable timer 142 and is used to set time duration of the programmable timer 142, such that the  
10 programmable timer 142 runs for the duration of maximum length power play time in minutes ( $D_6$ ).

*C6 cont.*  
Penalty, in this case for Team 2 ( $D_{13}$ ), is routed to storage device 144, which stores the penalty ( $D_{13}$ ) until the  
15 power play time begin ( $D_5$ ) begins.

During the time that the programmable timer 142 is running and the penalty, for example for Team 2 ( $D_{13}$ ) is routed to AND circuits 146 and 148, time in minutes and  
20 seconds are accrued in adders 150 and 152, respectively. The accrued time in minutes and seconds is routed from the adders 150 and 152 to cells designated as accrued time P and accrued time Q in database 152 for intermediate statistics stored in random access memory, respectively. The  
25 incrementer 116 increments rows of each of the respective databases 152 and 114 in synchronization one to the other, such that as data is read out of a row, for example row x,

of the database 114, manipulated data is read into row x of the database 152.

If a goal is scored, for example for Team 1, then  
5 elapsed game clock all goals scored ( $D_7$ ) is routed to comparator 154, such that the comparator 154 has an output at the time indicated for the goal scored ( $D_7$ ) when the timer 128 output, which is also routed to the comparator 154, reaches the time indicated by  $D_7$ .

10

*Cb Cont*  
Power play goal by team number ( $D_2$ ) and the output of the comparator 154 are routed to AND circuit 156, which resets the programmable timer 142, when a power play is scored by Team 1.

15

$D_7$  and  $D_2$  are also routed to AND circuit 158, which routes an output signal to Goal N for Team 1 in the database 152 for intermediate statistics.

20 If there is a two player penalty, then programmable timer 160 is activated substantially the same manner as the programmable timer 142, and two player advantage statistics are routed to the database 152.

25 Additional programmable timers (not shown) and associated circuitry (not shown), which is substantially the same as the aforescribed programmable timers and



associated circuitry, for one player and player advantages and goals of the opposing team are incorporated into the apparatus 110 for determining performance -indicating numbers in sports games, particularly in ice hockey.

5

The intermediate statistics from the database 152 may be optionally manipulated by a computer and/or calculator to arrive at final statistics for the hockey game.

Clb  
cont

10

A time chart display may be optionally displayed on a cathode ray tube, monitor, or television showing goals scored as the ordinate and with respect to time during each period as the abscissa.

15